



AUG 26 1992

25 August 1992


Mr. Charles B. Schwer  
Agency of Natural Resources  
Department of Environmental Conservation  
Hazardous Materials Management Division  
103 South Main Street/West Building  
Waterbury, Vermont 05671-0404

RE: Limited subsurface site assessment. Capital Chrysler facility. Barre-Montpelier Road.  
Barre, Vermont. (VTDEC Site #92-1220)

Dear Mr. Schwer:

Please find enclosed Griffin's report on the subsurface site assessment conducted at the above referenced site. This work was conducted in response to your 2 June 1992 letter to Mitchell Jay of Capital Chrysler.

If you have any questions regarding material here presented, please call.

Cordially,  
  
Christopher Hill  
Hydrogeologist

cc. Mitchell Jay, Capital Chrysler

REPORT  
ON THE INVESTIGATION OF  
SUBSURFACE PETROLEUM CONTAMINATION

Capital Chrysler  
Barre, Vermont

(VTDEC SITE #92-1220)  
GRIFFIN PROJECT #7924242

AUGUST 1992

Prepared by:

***GRIFFIN INTERNATIONAL, INC.***

2b Dorset Lane  
Williston, Vermont 05495  
(802) 879-7708

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- Site Map
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## 1.0 INTRODUCTION

This report details the investigation of residual subsurface petroleum contamination at Capital Chrysler, Inc. in Barre, Vermont. This work has been conducted by Griffin International, Inc. (Griffin) for Capital Chrysler in response to a Vermont Department of Environmental Conservation (VTDEC) letter to Mitchell Jay of Capital Chrysler dated 2 June 1992. The VTDEC requested a subsurface investigation after residual petroleum contamination was detected during the removal of gasoline underground storage tanks (USTs) from the site.

## 2.0 SITE BACKGROUND

### 2.1 Site Description

Capital Chrysler is located in Barre, Vermont on VT Route 302 approximately 1 1/4 miles south of the junction with VT Route 2 (See Site Location Map, Appendix). The site is immediately west of Route 302 approximately 600 feet from the Steven's Branch of the Winooski River. The Capital Chrysler facility is one of about 45, mostly commercial, structures that occupy the narrow valley floor within a half mile in either direction along Route 302. The surficial material underlying the site is mapped on the Surficial Geologic Map of Vermont as lake bottom silt, silty clay, and clay. Field observations confirm the presence of these material types beneath the site. This material is deposited upon the Barton River member of the Waits River Formation.

### 2.2 Site History

On 1 May 1992 Griffin inspected the removal of two, 2,000 gallon, gasoline USTs from the Capital Chrysler location. Details of the UST removals appear in Griffin's tank removal report submitted to the VTDEC Management and Prevention Section on 4 May 1992. The tank removal report concluded that the two USTs removed had been out of service for at least five years and had never been used by Capital Chrysler which obtained the tanks with the property in about 1987. The tank removal report also noted that there was an apparent assembly problem with the filler pipe on UST 2, which had apparently never been properly attached to the top of the tank. PID readings collected with an HNU Model PI101 PID during the tank removals generally ranged from 100 to 380 parts per million (ppm). A small amount of free phase product, estimated at less than one gallon, was observed on groundwater in the UST pit. The USTs were permanently removed and were not replaced with new tanks.

## 3.0 INVESTIGATIVE PROCEDURES

### 3.1 Monitoring Well Installation

To determine the degree and extent of soil and groundwater contamination at the site, three monitoring wells were completed by Green Mountain Boring under the direct supervision of a Griffin Hydrogeologist. This work was completed on 28 July 1992.

The wells were installed using a hollow-stem auger drill rig. Undisturbed soil cores were collected in a split spoon sampler at five foot intervals from each borehole. Split spoon corings and drill cuttings collected directly from the augers were screened for volatile organic compounds (VOCs) using a Photovac MicroTIP HL 2000 photo-ionization detector (PID) and logged by the hydrogeologist. Soils encountered in the three boreholes generally consisted of two feet of sand and gravel fill overlying a thick deposit of gray/brown silt and silty clay which generally extended to about sixteen feet below

grade. In monitoring wells 1 and 2 (MW-1, MW-2) sand and gravel were observed from about sixteen feet to the base of exploration. Elevated PID readings were detected during the installation of each of the three monitoring wells. PID readings and soil characteristics are listed on the detailed well logs in the Appendix.

The monitoring wells are constructed of two inch diameter PVC well screen and casing. The annulus between the borehole wall and the screened section of each well contains a silica gravel pack to filter fine sediments from groundwater entering the well. The annulus of each well also contains a bentonite seal to prevent surface water from infiltrating into the borehole. Each well is protected at the surface by locking wells caps, flush mounted steel well head protection casings, and bolt down covers. Well construction details are listed on the well logs in the Appendix.

MW-1 was located in the presumed downgradient direction to help determine the downgradient extent of residual petroleum contamination. MW-2 was placed north of the former UST location to help determine the lateral extent of residual petroleum contamination. MW-3 was located at the presumed downgradient edge of, and within, the former UST pit to provide data on groundwater quality in the immediate vicinity of the pit.

Once the wells were installed they were developed by a Griffin field technician using a clean Teflon bailer.

### 3.2 Determination of Groundwater Gradient and Flow Direction

On 4 August 1992, Griffin measured the relative water table elevations in each of the three on-site monitoring wells. Measurements were made from the top of casing of each well. Liquid level data is presented in the Appendix.

The water table surface was calculated using the water level measurements from each of the three monitoring wells (see Groundwater Contour Map, Appendix). All measurements were referenced to a benchmark (top of casing at MW-3), which was assigned an arbitrary elevation of 100 feet. Groundwater beneath the former UST area appears to be flowing due east, toward the Steven's Branch of the Winooski River at a steep, 12.5% gradient. The presence of a confined, water bearing, sand layer which was penetrated by two of the three monitoring wells may be affecting water level data.

### 3.3 Groundwater Sampling and Analyses

Samples were collected from all three monitoring wells (MW-1, MW-2, MW-3) on 4 August 1992. Samples from these wells were analyzed to EPA Method 8020 (water). Results from the analyses of the samples taken from the monitoring wells indicate concentrations of benzene, toluene, ethylbenzene, and xylenes (the BTEX compounds) significantly above Vermont groundwater enforcement standards and health advisory levels. MTBE (methyl tertiary butyl ether, an anti-knock gasoline additive) is absent from all monitoring wells and corroborates the prolonged lack of use of the USTs. No free phase product was detected in any of the monitoring wells although petroleum odors were detected in each.

Groundwater quality data from all monitoring wells is tabulated and mapped in the Appendix. Laboratory reports also appear in the Appendix. Equipment blank, trip blank and duplicate samples were collected and indicate that good quality assurance and control was maintained during the sampling and analysis process.

#### 4.0 CONCLUSIONS

Based on the results obtained from the site subsurface investigation, Griffin has reached the following conclusions:

- The former gasoline USTs have been permanently removed from the site, thus removing the original source of petroleum contamination. No replacement tanks were installed.
- Based on the elevated PID readings observed during the installation of the monitoring wells, residual adsorbed petroleum contamination exists in soils in and surrounding the former UST location. PID readings indicate that the adsorbed soil contamination extends to MW-2 and MW-3.
- Analyses of groundwater samples collected from monitoring wells at the site indicate that residual dissolved phase petroleum contamination exists in groundwater beneath and surrounding the former UST location. Groundwater quality results indicate that dissolved phase contamination extends to MW-2 and MW-3.
- The water table occurs at eight to fifteen feet below grade. The groundwater flow direction appears to be due east at a gradient of 12.5%.
- Subsurface materials at the site generally consist of 2 feet of sand and gravel fill overlying a thick deposit of gray/brown silt and silty clay which generally extends to about sixteen feet below grade. Well log data indicates that a layer of sand and gravel exists beneath the silt and clay deposit. This layer could serve as a preferential pathway for contaminant migration.
- Significant groundwater and soil contamination detected in all monitoring wells indicate that the extent of residual petroleum contamination has not been identified.

#### 5.0 RISK ASSESSMENT

Capital Chrysler and the surrounding structures, except for the Mitsubishi dealership to the north, are served by the Barre City municipal water supply system. Therefore there appears to be no risk to the water supply serving local businesses and residences.

A drilled water supply well is located approximately 300 feet to the north of the former UST pit. This is a drilled, overflowing artesian well that serves the nearby Mitsubishi dealership. It has been estimated that this well is overflowing at ten or more gallons per minute.

Since groundwater appears to be flowing directly east from the former UST pit, residual subsurface contamination should not pose a threat to this well over the long term. Additionally, the artesian character of this well indicates a positive pressure within the well casing which would impede the movement of contaminants into the cased portion of the well. Based on this information, it appears unlikely that residual petroleum contamination in the area of the former UST pit at Capital Chrysler will impact the Mitsubishi Dealership's supply well.

The Capital Chrysler facility adjacent to the former UST pit does not have a basement. This reduces the likelihood of air contamination inside the building from the migration of gaseous phase volatile organic compounds from the former pit area. It should be noted that the facility is an automobile dealership and repair facility and that background VOC levels in such facilities are often higher than intruding levels from subsurface releases. The only building directly downgradient appears to be the

Vermont Shopping Center about 500' to the east.

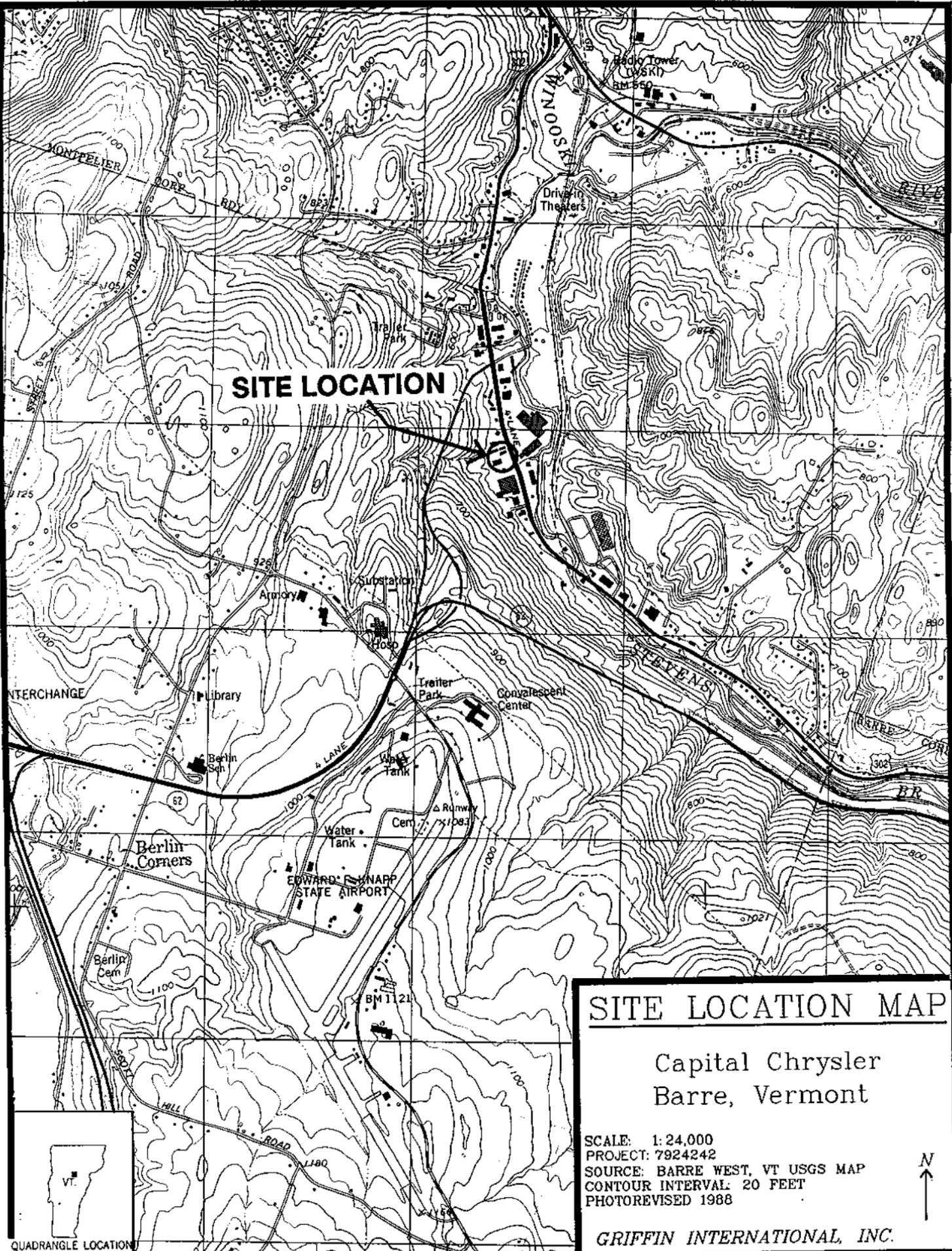
The Steven's Branch of the Winooski River, approximately 600' to the east, is the ultimate receptor of any residual petroleum contamination. Dense silt and clay at this site may significantly restrict, or prevent, the movement of contaminants towards the river. However, a layer of sand and gravel may exist beneath the silt deposit. This layer, if continuous and extensive, could serve as a preferential pathway for contaminant migration towards the river. However, the 600 foot distance to the river will likely prevent any significant, detectable, concentrations of petroleum related compounds from reaching the river. No obvious signs of petroleum seepage were detected along the culverted section of stream leading to the Steven's Branch, or along the banks of the Steven's Branch river downgradient of the confluence of the culverted stream.

## 6.0 RECOMMENDATIONS

Based on the high contaminant levels detected during this limited site subsurface assessment, Griffin makes the following recommendations:

- To determine the downgradient extent of residual petroleum contamination, Griffin recommends installing one monitoring well further east of MW-1 (See Proposed Monitoring Well Locations, Appendix). A monitoring well should also be placed upgradient of the former UST locations to confirm that the existing fuel oil USTs are not contributing to the observed contamination. To help establish the extent of contamination to the north (towards the Mitsubishi dealership's supply well) a monitoring well should be placed beyond MW-2. These wells will assist in determining the limits of residual petroleum contamination and will help further evaluate the risk posed to the Steven's Branch River and surrounding properties.
- To monitor and document groundwater quality conditions at this, Griffin recommends collecting groundwater samples from all monitoring wells and the Mitsubishi dealership's supply well in October 1992. Samples should be analyzed according to EPA Method 602 after the new wells have been installed. Water level data obtained from the new monitoring wells will allow confirmation of groundwater flow direction at the site.
- Results obtained from the next round of groundwater sampling will be used to determine whether active remediation is warranted. Since the residual petroleum contamination has apparently existed for several years, the absence of any impact to sensitive receptors may allow a long term monitoring program in lieu of active remediation.

# APPENDIX



**SITE LOCATION**

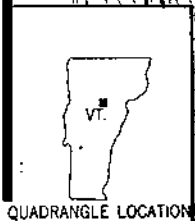
**SITE LOCATION MAP**

Capital Chrysler  
Barre, Vermont

SCALE: 1:24,000  
PROJECT: 7924242  
SOURCE: BARRE WEST, VT USGS MAP  
CONTOUR INTERVAL: 20 FEET  
PHOTOREVISED 1988



GRIFFIN INTERNATIONAL, INC.



QUADRANGLE LOCATION

MITSUBISHI  
DEALERSHIP

OFFICE  
COMPLEX

APPROX 300 FEET TO  
MITSUBISHI DEALERSHIP  
WATER SUPPLY WELL  
FROM FORMER UST PIT

EXISTING  
HEATING OIL  
USTs

CARWASH

MW-2

GRASSY AREA

FORMER  
UST PIT

MW-3

MW-1

CAPITAL  
CHRYSLER

ENTIRE AREA IS PAVED  
EXCEPT AS INDICATED

ROUTE 302

UNDERGROUND STREAM IN CULVERT CHANNEL

BURGER  
KING

## SITE MAP

CAPITAL CHRYSLER  
BARRE, VERMONT

MW-3



- MONITORING WELL WITH I.D.

0 25 50

SCALE IN FEET

PROJECT: 7924242

DRAWN: 8-19-92

GRIFFIN INTERNATIONAL, INC.

OFFICE  
COMPLEX

MITSUBISHI  
DEALERSHIP

APPROX. 300 FEET TO  
MITSUBISHI DEALERSHIP  
WATER SUPPLY WELL  
FROM FORMER UST PIT

EXISTING  
HEATING OIL  
USTs

CARWASH

FORMER  
UST PIT

GRASSY AREA

DIRECTION OF  
GROUNDWATER FLOW

CAPITAL  
CHRYSLER

ENTIRE AREA IS PAVED  
EXCEPT AS INDICATED

ROUTE 302

BURGER  
KING

GROUNDWATER  
CONTOUR MAP  
CAPITAL CHRYSLER  
BARRE, VERMONT

MW-1 } MONITORING WELL WITH I.D. AND  
95.11' } WATER TABLE ELEVATION IN FEET

MONITORING DATE: 8-4-92

0 25 50  
SCALE IN FEET

GRIFFIN INTERNATIONAL, INC.

OFFICE  
COMPLEX

APPROX. 300 FEET TO  
MITSUBISHI DEALERSHIP  
WATER SUPPLY WELL  
FROM FORMER UST PIT

MITSUBISHI  
DEALERSHIP

EXISTING  
HEATING OIL  
USTs

CARWASH

MW-2  
92.900

GRASSY AREA

FORMER  
UST PIT

50'  
MW-3  
94.490

MW-1  
21.236

CAPITAL  
CHRYSLER

ENTIRE AREA IS PAVED  
EXCEPT AS INDICTAED

UNDERGROUND STREAM IN CULVERT

ROUTE 302

BURGER  
KING

BTEX+MTBE  
DISTRIBUTION MAP  
CAPITAL CHRYSLER  
BARRE, VERMONT

MW-1 } MONITORING WELL WITH I.D. AND  
11.26 } BTEX+MTBE CONCENTRTATION (PPM)

MONITORING DATE: 8-4-92

PROJECT: 7924242

0 25 50  
SCALE IN FEET

GRIFFIN INTERNATIONAL, INC.

OFFICE  
COMPLEX

APPROX. 300 FEET TO  
MITSUBISHI DEALERSHIP  
WATER SUPPLY WELL  
FROM FORMER UST PIT

MITSUBISHI  
DEALERSHIP

EXISTING  
HEATING OIL  
USTs

CARWASH

MW-2

GRASSY AREA

FORMER  
UST PIT

MW-3

MW-1

CAPITAL  
CHRYSLER

ENTIRE AREA IS PAVED  
EXCEPT AS INDICATED

UNDERGROUND STREAM IN CULVERT

BURGER  
KING

PROPOSED MONITORING  
WELL LOCATIONS

CAPITAL CHRYSLER  
BARRE, VERMONT

⊕ - PROPOSED WELL LOCATION  
PROJECT: 7924242

0 25 50  
SCALE IN FEET

ROUTE 302

GRIFFIN INTERNATIONAL, INC.

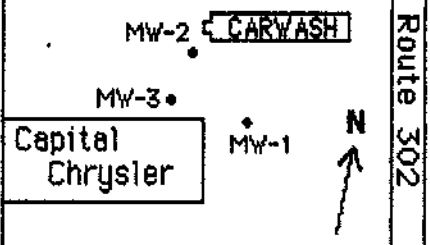
**Capital Chrysler**  
**Liquid Level Monitoring Data**  
**8-Aug-92**

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Hydro Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	17	99.36	-	14.81	-	-	-	-	84.55
MW-2	17	99.06	-	9.13	-	-	-	-	89.93
MW-3	14	100.00	-	7.88	-	-	-	-	92.12

All Values Reported in Feet

PROJECT CAPITAL CHRYSLERLOCATION BARRE, VERMONTDATE DRILLED 7-28-92 TOTAL DEPTH OF HOLE 18'DIAMETER 4"SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.020"CASING DIA. 2" LENGTH 7.5' TYPE PVCDRILLING CO. GREEN MT. BORING DRILLING METHOD HOLLOW STEM AUGERDRILLER BERNASCONI LOG BY MILLERWELL NUMBER MW-1

## Site Sketch

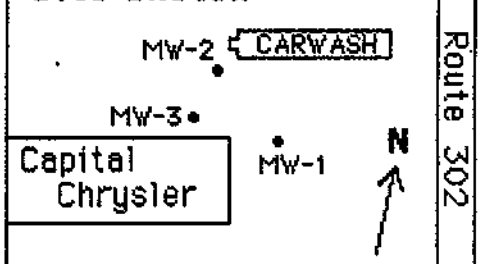


DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 5" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		WELL CAP			1
2		CONCRETE			2
3		NATIVE BACKFILL			3
4		BENTONITE			4
5					5
6		WELL CASING	21, 9, 11, 15	5 - 7' Gray / Brown SILT	6
7			60 ppm		7
8					8
9					9
10					10
11		GRAVEL PACK	7, 5, 8, 8	10 - 12' Gray / Brown SILT	11
12			3.2 ppm		12
13					13
14		WELL SCREEN			14
15				WATER TABLE 15 - 16.8' Brown, Medium to Fine SAND slight petroleum odor	15
16			7, 5, 9, 9	16.8 - 17' Gray SAND and GRAVEL strong petroleum odor, wet.	16
17			1,200 ppm		17
18		BOTTOM PLUG			18
19					19
20					20
21				BASE OF EXPLORATION AT 18'	21
22					22
23					23
24					24
25					25
26					26

Griffin International

PROJECT CAPITAL CHRYSLERLOCATION BARRE, VERMONTDATE DRILLED 7-28-92 TOTAL DEPTH OF HOLE 17'DIAMETER 4"SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.020"CASING DIA. 2" LENGTH 9.5' TYPE PVCDRILLING CO. GREEN MT. BORING DRILLING METHOD HOLLOW STEM AUGERDRILLER BERNASCONI LOG BY MILLERWELL NUMBER MW-2

## Site Sketch

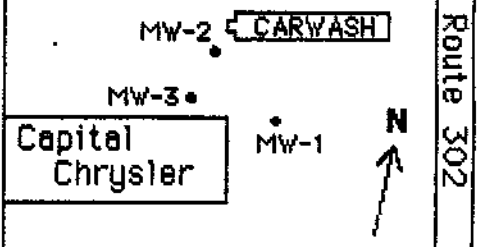


DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		WELL CAP			1
2		CONCRETE			2
3		NATIVE BACKFILL			3
4		BENTONITE			4
5					5
6		WELL CASING	5, 3, 5, 6 626 ppm	5 - 7' Gray SILT, Moist Slight petroleum Odor	6
7					7
8					8
9				WATER TABLE	9
10					10
11		GRAVEL PACK	4, 5, 5, 6 710 ppm	10 - 12' Gray SILT, Wet Slight petroleum odor	11
12					12
13					13
14		WELL SCREEN		15 - 16.5' Gray SILT, Wet Slight petroleum odor	14
15					15
16			3, 6, 7, 8 11.9 ppm	16.5 - 17' SAND, GRAVEL, and SHALE FRAGMENTS Wet, Slight petroleum Odor	16
17		BOTTOM PLUG		BASE OF EXPLORATION AT 17'	17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
26					26

Griffin International

PROJECT CAPITAL CHRYSLERLOCATION BARRE, VERMONTDATE DRILLED 7-28-92 TOTAL DEPTH OF HOLE 18'DIAMETER 4"SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.020"CASING DIA. 2" LENGTH 7.5' TYPE PVCDRILLING CO. GREEN MT. BORING DRILLING METHOD HOLLOW STEM AUGERDRILLER BERNASCONI LOG BY MILLERWELL NUMBER MW-3

## Site Sketch



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 5" OF SPOON AND PID READINGS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX			0
1		WELL CAP			1
2		CONCRETE			2
3				0 - 2' Brown SAND and GRAVEL, dry	3
4		WELL CASING			4
5		NATIVE BACKFILL			5
6		BENTONITE	2, 2, 3, 4 <b>&gt;2,500 ppm</b>	5 - 7' Gray SILT, wet Strong petroleum odor	6
7					7
8				WATER TABLE	8
9					9
10					10
11		GRAVEL PACK	4, 4, 7, 7 <b>&gt;2,500 ppm</b>	10 - 12' Gray SILT, wet Strong petroleum odor	11
12					12
13					13
14		BOTTOM PLUG			14
15			5, 5, 6, 9 <b>13.1 ppm</b>	14 - 16' Gray, Silty CLAY, moist Slight petroleum odor	15
16				BASE OF EXPLORATION AT 16'	16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25
26					26

Griffin International

**Groundwater Quality Summary**  
**Capital Chrysler**  
**Barre, Vermont**

Sampling Date: 4 August 1992

PARAMETER	MW-1	MW-2	MW-3	Vermont Health Advisory Levels
Benzene	466.	6,720.	9,790.	5.0*
Chlorobenzene	ND	ND	ND	100
1,2-DCB	ND	ND	ND	-
1,3-DCB	ND	ND	ND	-
1,4-DCB	ND	ND	ND	-
Ethylbenzene	1,710.	3,280.	3,100.	680
Toluene	11,000.	67,100.	64,500.	2420
Xylenes	8,060.	15,800.	17,100.	400
Total BTEX	21,236.	92,900.	94,490.	-
MTBE	ND	ND	ND	40
BTEX+MTBE	21,236.	92,900.	94,490.	-
T.P.H.	39.	25.	30.	-

All Values Reported in ug/L (ppb)

Except TPH, reported in mg/L (ppm)

\* - Maximum Contaminant Level



**ENDYNE, INC.**

**Laboratory Services**

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

**LABORATORY REPORT**

**EPA METHOD 602 -- PURGEABLE AROMATICS**

CLIENT: Griffin International  
PROJECT NAME: Capital Chrysler  
REPORT DATE: August 19, 1992  
DATE SAMPLED: August 4, 1992  
DATE RECEIVED: August 5, 1992  
ANALYSIS DATE: August 18, 1992

PROJECT CODE: GICC1866  
REF.#: 34,007  
STATION: MW 1  
TIME SAMPLED: 10:15  
SAMPLER: Becca Schuyler

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	100	466.
Chlorobenzene	200	ND <sup>2</sup>
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	100	1,710.
Toluene	100	11,000.
Xylenes	100	8,060.
MTBE	500	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 12

**NOTES:**

- 1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.  
2 None detected

Reviewed by *Suzanne Indole*



# Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

## LABORATORY REPORT

### EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International  
PROJECT NAME: Capital Chrysler  
REPORT DATE: August 19, 1992  
DATE SAMPLED: August 4, 1992  
DATE RECEIVED: August 5, 1992  
ANALYSIS DATE: August 18, 1992

PROJECT CODE: GICC1866  
REF.#: 34,005  
STATION: MW 2  
TIME SAMPLED: 9:45  
SAMPLER: Becca Schuyler

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	1000	6,720.
Chlorobenzene	2000	ND <sup>2</sup>
1,2-Dichlorobenzene	2000	ND
1,3-Dichlorobenzene	2000	ND
1,4-Dichlorobenzene	2000	ND
Ethylbenzene	1000	3,280.
Toluene	1000	67,100.
Xylenes	1000	15,800.
MTBE	5000	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

#### NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 0.1% dilution.  
2 None detected

Reviewed by Suzanne J. Furey



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International  
PROJECT NAME: Capital Chrysler  
REPORT DATE: August 19, 1992  
DATE SAMPLED: August 4, 1992  
DATE RECEIVED: August 5, 1992  
ANALYSIS DATE: August 18, 1992

PROJECT CODE: GICC1866  
REF.#: 34,008  
STATION: MW 3  
TIME SAMPLED: 10:50  
SAMPLER: Becca Schuyler

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	1000	9,790.
Chlorobenzene	2000	ND <sup>2</sup>
1,2-Dichlorobenzene	2000	ND
1,3-Dichlorobenzene	2000	ND
1,4-Dichlorobenzene	2000	ND
Ethylbenzene	1000	3,100.
Toluene	1000	64,500.
Xylenes	1000	17,100.
MTBE	5000	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

- 1 Detection limit raised due to high levels of contaminants. Sample run at 0.1% dilution.  
2 None detected

Reviewed by

Seyan Fickel



Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

TOTAL HYDROCARBONS - EPA METHOD 418.1

CLIENT: Griffin International  
REPORT DATE: August 19, 1992  
PROJECT NAME: Capital Chrysler  
PROJECT CODE: GICC1867  
DATE SAMPLED: August 4, 1992  
DATE RECEIVED: August 5, 1992  
DATE ANALYZED: Auguts 11&18, 1992  
SAMPLER: Becca Schuyler

Reference number:

Concentration (mg/L)<sup>1</sup>

34,010	ND <sup>2</sup>
34,011	25.
34,012	ND
34,013	39.
34,014	30.
34,015	44.

Sample ID:

34,010: Trip Blank; 7:30  
34,011: MW 2; 9:45  
34,012: Equip. Blank; 9:55  
34,013: MW 1; 10:15  
34,014: MW 3; 10:50  
34,015: Duplicate; 10:15 (MW-1)

Notes:

- 1 Method detection limit is 0.8 ppm
- 2 None detected

Reviewed by

Suzanne Hilde



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International  
PROJECT NAME: Capital Chrysler  
REPORT DATE: August 19, 1992  
DATE SAMPLED: August 4, 1992  
DATE RECEIVED: August 5, 1992  
ANALYSIS DATE: August 18, 1992

PROJECT CODE: GICC1866  
REF.#: 34,009  
STATION: Duplicate (MW-3)  
TIME SAMPLED: 10:50  
SAMPLER: Becca Schuyler

<u>Parameter</u>	<u>Detection Limit (ug/L)<sup>1</sup></u>	<u>Concentration (ug/L)</u>
Benzene	1000	9,770.
Chlorobenzene	2000	ND <sup>2</sup>
1,2-Dichlorobenzene	2000	ND
1,3-Dichlorobenzene	2000	ND
1,4-Dichlorobenzene	2000	ND
Ethylbenzene	1000	3,340.
Toluene	1000	69,900.
Xylenes	1000	18,100.
MTBE	5000	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 0.1% dilution.

2 None detected

Reviewed by Suzanne Finkel



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LABORATORY REPORT

EPA METHOD 602 -- PURGEABLE AROMATICS

CLIENT: Griffin International  
PROJECT NAME: Capital Chrysler  
REPORT DATE: August 19, 1992  
DATE SAMPLED: August 4, 1992  
DATE RECEIVED: August 5, 1992  
ANALYSIS DATE: August 17, 1992

PROJECT CODE: GICC1866  
REF.#: 34,006  
STATION: Equip Blank  
TIME SAMPLED: 9:55  
SAMPLER: Becca Schuyler

<u>Parameter</u>	<u>Detection Limit (ug/L)</u>	<u>Concentration (ug/L)</u>
Benzene	1	ND <sup>1</sup>
Chlorobenzene	2	ND
1,2-Dichlorobenzene	2	ND
1,3-Dichlorobenzene	2	ND
1,4-Dichlorobenzene	2	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	5	ND

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

Reviewed by Suzanne Fudde